

REMARKS/ARGUMENTS

Overview of the invention:

As track densities increase, it becomes increasingly important to prevent accidentally writing data outside the boundaries of a track, including on an adjacent track. A secondary lower magnetic pole design for a write head is described that achieves this by being closer to the ABS than the primary lower pole. It takes the form of a ledge that terminates at the ABS, said ledge resting on a non-magnetic layer.

Reconsideration is requested of the rejection of claim 4-10 under 35 U.S.C. 103(a) as being unpatentable over Stoev et al. (US 6724572) in view of Santini (US 6557242):

In our previous paper we pointed out what we believed to be several differences between what Stoev discloses, and the present invention:

(1) Stoev's first layer of high permeability material 208 is not on substrate 28, being separated therefrom by intervening layers 30 and 206. The corresponding layer in the present invention is layer 12 which lies on substrate 15. Since it is on, not merely over, substrate 15 there are no layers between layers 12 and 15.

In his response, examiner argued that Stoev's "first layer of high permeability is part of a stack that is disposed on the substrate, and thus, the layer is disposed on the substrate". This argument is not understood since it implies, for example, that a ship at sea is on the ocean floor since it is part of a stack of water that is disposed on the ocean floor.

However, in the interests of achieving maximum clarity for claim 4 we have amended it, as suggested by examiner, to read "directly on the substrate".

(2) Layers 210 and 220 do not fully cover and contact primary lower magnetic pole 208 as claimed in our claim 4. In fact, these layers cover and contact less than 10% of layer 208.

Examiner has responded to this argument by introducing additional grounds (in view of Santini) for rejection under 35 USC 103(a), specifically fig. 22AD of Santini which shows secondary lower pole P1T as fully covering and contacting primary lower magnetic pole P1B/S2.

Examiner then argues that "it would have been obvious to extend the secondary pole tip back to the contact region of the upper and lower poles, as taught by Santini...".

We respectfully disagree with this because it is clear from Stoev's fig. 4 that extending pole tip 210 back to contact region 60 would require 210 to pass through coil sections 55. We note, however, that the extension of the full thickness of Santini's P1T/S2 would run into a similar problem which Santini ameliorates by making the extension of P1T much thinner than P1T itself. In contrast, the geometry of the present invention is not subject to this problem of collision with the field coils so there is no need to reduce the thickness of the secondary lower pole extension for it to be able to fully cover the primary lower magnetic pole.

We have emphasized this feature of the present invention by including in claim 4 the limitation "said secondary lower pole having a thickness that remains unchanged over said secondary lower pole's entire length".

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(3) Stoev's upper pole 72 is separated from ledge 220 by both secondary pole 68 as well as non-magnetic layer 45. The present invention claims only one layer (14) between ledge 41 and upper pole 11.

Examiner has rejected this argument on the grounds that the presence of only one layer is not explicitly stated in claim 4. This has now been corrected by a suitable amendment of claim 4.

Reconsideration is requested of the rejection of claims 5-10 under 35 U.S.C. 103(a) as being unpatentable over Stoev et al. in view of Santini and further in view of Sasaki et al. (US 2003/0151849):

Applicant believes that, based on the foregoing arguments, the rejection of claim 4 under 35 USC 103(a) has now been overcome and notes that claims 5-10 are all dependent on claim 4 and therefore are believed to no longer be subject to rejection under 35 USC 103(a).

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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